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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,818	10/23/2003	Dan M. Ionel	010121-9939	6305
23409	7590	07/05/2005	EXAMINER	
MICHAEL BEST & FRIEDRICH, LLP 100 E WISCONSIN AVENUE MILWAUKEE, WI 53202			TAMAI, KARL I	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/691,818	Applicant(s) IONEL ET AL. (mw)	
	Examiner Tamai IE Karl	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
 4a) Of the above claim(s) 32, 40, and 41 is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-31 and 33-39 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/23/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, Claims 1-31 and 33-39 in the reply filed on 6/20/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Specification

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-6, 12-13, 15, 17, 19, 20, 25, 27, 28, 33, 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Nozawa et al. (Nozawa)(JP 06-038415). Nozawa teaches a rotor assembly for an electric motor having a spoked permanent magnet rotor (figures 3 and 4) having an axis of rotation, circumferentially extending permanent magnet material 41, 31b with outwardly extending spoke portions of permanent

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magnet material 31b, 41, ferro-magnetic material forming a plurality of pole pieces 22, 42, each pole piece being positioned between a set of circumferentially adjacent outwardly extending spoke portions of permanent magnet material, and first and second shafts/endplates 15 supporting the spoke permanent magnet rotor for rotation about the axis of rotation. Nozawa teaches the poles may be laminated or pressed (inherently compacting) a ferro magnetic metal powder. Nozawa teaches the first radial position being adjacent a hollow core portion 33, 43, with the axis of rotation extending through the core.

In regards to the method of making limitations for dynamic compaction of claims 5, 6, 25-31. As a product by a process claim "even though the product-by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of the product does not depend on its method of production. If the product in the product by process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process". *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966(Fed. Cir. 1985). Nozawa teaches the magnet can be made by any approach such as powder-metallurgy processing, plastic-working methods (setting rolling, extrusion, etc.), a bond magnet, etc....where electromagnetic compression and injection molding are two known types of manufacturing processes for permanent magnets.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa et al. (Nozawa)(JP 06-038415) and Ferreira (US 5204572). Nozawa teaches every aspect of the invention except the magnet extending to the perimeter of the rotor. Ferreira teaches a rotor having a spoked rotor with poles in between the magnets (figure 5) with the magnets extending to the perimeter of the rotor. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the rotor of Nozawa with the magnets and poles of Ferreira to increase the coupling efficiency of the rotor and decrease the size of the dynamo.

8. Claims 7 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa et al. (Nozawa)(JP 06-038415) and Kawamata et al. (Kawamata)(JP 08-223832). Nozawa teaches every aspect of the invention except the magnets being plastic magnets molded around the pole pieces. Kawamata teaches the plastic (resin/powder) magnets 7-1, 7-8 being injection molded around the poles 6 retained by dovetails 2b, 2c. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the rotor of Nozawa with the magnets and poles of Kawamata to provide laminated poles with low cogging torque.

9. Claims 8, 9, 22, 24, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa et al. (Nozawa)(JP 06-038415) and Cuenot et al. (Cuenot)(US 5091668). Nozawa teaches every aspect of the invention except the poles retained by dovetails. Cuenot teaches the poles 3 retained by dovetails 2b, 2c to prevent outward radial movement. Cuenot teaches the shaft 1 is a solid core. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the rotor of Nozawa with the poles having dovetails because Cuenot teaches that the poles can be secured to the rotor with dovetails.

10. Claims 8, 10, 31, 35, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa et al. (Nozawa)(JP 06-038415) and Noodleman (US 3979821). Nozawa teaches every aspect of the invention the poles retained by a main

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and a narrower throat portion and no bolt passing through the ferromagnetic pole pieces. Noodleman teaches the poles 200 held by a retainer with a main and narrow neck to provide a secure rotor structure at high speeds and without bolts. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the rotor of Nozawa with the poles retained by a main and narrow neck portion to maintain rotor integrity at high speeds as taught by Noodleman.

11. Claims 11, 14, 23, 29, 30, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa et al. (Nozawa)(JP 06-038415) and Nichiki (JP 6-62541). Nozawa teaches every aspect of the invention the axis of rotation extending through the permanent magnet material. Nichiki teaches the rotor magnet material extending through the axis of rotation to simplify production. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the rotor of Nozawa with the resin magnetic material extending through the axis of rotation to simplify production.

12. Claims 16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa et al. (Nozawa)(JP 06-038415) and Takemoto et al. (Takemoto)(JP 07-203643). Nozawa teaches every aspect of the invention the circumferential portion of the permanent magnet material extends from the shaft to the ferromagnetic pole plates. Nozawa teaches the circumferential portion of the magnetic material extending to the ferromagnetic pole plates, but does not teach the magnetic material adjacent to the

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shaft. Takemoto teaches the permanent magnet material on the shaft to eliminate molding defects. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the rotor of Nozawa with the resin magnetic material extending to the shaft to avoid molding defects.

13. Claims 18, 22, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa et al. (Nozawa)(JP 06-038415) and Uchida (US 5157297). Nozawa teaches every aspect of the invention except a core portion. Uchida teaches a circumferentially magnetized rotor mounted on a magnetic shaft 12 with non-magnetic cover 22. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the rotor of Nozawa on a core because Uchida teaches the magnetic shafts/cores are low cost rotor supports.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (571) 272 - 2036.

The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg, can be reached at (571) 272 - 2044. The facsimile number for the Group is (703) 872 - 9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karl I Tamai
PRIMARY PATENT EXAMINER
June 28, 2005



KARL TAMAI
PRIMARY EXAMINER